A Conceptual Overview of Information Organization

Objectives of this lecture
- Define information organization
- Introduce concepts of information organization
- Provide a map of steps used in information organization
- Present challenges of organizing information
- Clarify focus of course
- Link lecture’s concepts and terms to IOP Section 1

What is information organization?
The processes and practices of describing and representing information objects (containers and content), AND identifying the connections and relationships between the objects and the people who created or produced them.

Why do we organize information?
These processes and practices serve users by assisting them to identify, locate, access, retrieve, and make judgments about information in response to their information needs.

How do we organize information?
- Two basic operations:
  - Lumping
  - Splitting
- Grouping things together based on similarities
- Differentiating one thing from another

What do we need to know?
- Needs, capabilities, and behaviors of users
- Nature of information
- Processes and concepts for representing information
- How information systems work

We do this primarily through representations
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The starting point: Users

- Who are users?
  - People visiting the library
  - People working in the library
  - Software programs “crawling” the Internet!

- They use our systems to find information to
  - solve problems
  - answer questions
  - and lots of other reasons.

Users and their information needs

I want to find out how to do something.

Can I verify a piece of information?

We need some ideas to make sense of a situation.

The information we organize

- The bibliographic universe
- Recorded information
- Information objects
  - Objects that have the potential to inform
  - Containers
  - Content

The bibliographic universe

Universe of Knowledge

The Bibliographic Universe: Recorded Information

Information objects

The Bibliographic Universe

Creator/author (ideas, thoughts)

Information object (recorded information)
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Stage 2: Information representation
Author: Taylor, Arlene G.  
Title: The organization of information
Information object
Information organizer (cataloger/indexer)
selects features
creates representation

Stage 3: Information retrieval
Author: Taylor, Arlene G.  
Title: The organization of information
Information user (seeker, searcher)
selects based on features
Metadata record (points to object)
acquires or obtains

Representing the information object
Information container
- IO’s physical aspects
- Attributes:
  - Physical characteristics of object (e.g., size, pages)
  - Name (e.g., title)
  - Creator (e.g., author, artist)
- In libraries, called descriptive cataloging

Information content
- IO’s intellectual aspects
- Attributes:
  - Topics
  - Concepts
  - Themes
  - Geographic and Time
- In libraries, called subject analysis, subject cataloging, classification

Metadata
- Data about data
- Structured information representing an information object
- Assertions about object
- “Schematized statements about resources” (Lorcan Dempsey)
- Metadata elements label information in the representation
- Available for processing by computer

Users, collections, representation

Metadata
Author: Taylor, Arlene G., 1941-
Title: The organization of information
Edition: 2nd ed.
Descript: xxvii, 417 p. ; 27 cm.
Series: Library and Information science text series
Note: Includes bibliographical references (p. 385-405) and index.
ISBN/ISSN: 1563089696 (pbk. : alk. paper)
1563089769 (hbk. : alk. paper)
Subject: Information organization. Metadata.

Users
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**Information systems**

The major — perhaps only — reason for the existence of an information system is to store and to provide information in usable chunks to those who live and work in certain environments, and who as a result, have certain problems which information may help to clarify or even solve. (MacMullin & Taylor, 1984)

- **System:** a set of components working together toward some goal.
  - The library as a system
    - Collection
    - Organization system
    - Staff

**Information retrieval (IR) systems**

- Central tool in an information system
- User interacts with IR system in searching
- Components of an IR system
  - Set of representations of information objects
  - User interface
  - Language by which user and system communicate
  - Matching component
  - Interaction component
  - Set of messages between user and system

**Model of information retrieval**

User's Information Need

Information objects

Representation A: Query

Representation B: Metadata

Information Retrieval System: Matching Representations A and B

Subset of Representations Pertinent to the Information Need
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Challenges
- Goal is to connect users to information
- Representation is central concept
- Create representations that serve users, not just the librarians
- Accept that there is no one right representation
- Build upon past practices and understanding
- Address the digital environment with its more complex and multifaceted information objects

Organizer’s knowledge and skills

Knowledge
- Users
- Controlled vocabulary
- Metadata
- Classification schemes
- File organization
- Retrieval mechanisms

Skills
- Conduct user studies
- Analyze content of documents
- Describe resources
- Apply rules and standards
- Evaluate information systems
- Design databases and IR systems

Searcher’s knowledge and skills

Knowledge
- Users
- Materials available
- Controlled vocabulary
- Classification schemes
- File organization
- Retrieval mechanisms

Skills
- Conduct user studies
- Elicit user questions
- Formulate search strategy and queries
- Evaluate systems output

Dr. Schamber’s truisms
- Information organization in LIS has...
- one common goal, facilitating access
- common problems, regardless of context
- common solutions, depending on context
- Information organization is problematic
- the larger the collection, the greater the need for organization
- the larger the collection, the more complex the organization
- the more complex the organization, the harder it is to change.
- Information organization in practice...
- depends on intellectual representations
- is innate to human cognitive behavior
- is arbitrarily determined
- is imposed on the user
- reflects and defines the context

Welcome to the challenge!
- We focus on a conceptual approach to information organization
- We balance the conceptual with practice
- The information organization project (IOP) requires you to grapple with the concepts and apply them
- We introduce much new technical terminology
- We will work with you to help you succeed!

Concepts & terms
- Attributes
- Bibliographic universe
- Cataloger
- Classification
- Collection
- Descriptive cataloging
- Indexer
- Information container
- Information content
- Information needs
- Information objects
- Information organization
- Information retrieval system
- Information system
- Interaction
- Library catalog record
- Lumping/splitting
- Metadata
- Recorded information
- Representation
- Subject analysis
- Universe of knowledge
- Users